

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE*In re* Application of:

BEFORE THE EXAMINER:

Xu et al.

Bekir Yildirim

Serial No.: 09/615,545

Group Art Unit No.: 1764

Filed: July 13, 2000

Attorney Docket No.: 2000B009A

USPTO Conf.: No. 4214

Customer No.: 23455

For: Catalyst Pretreatment in an
Oxygenate to Olefins Reaction
System

Baytown, Texas
October 7, 2003

Commissioner for Patents
Washington, D.C. 20231

DECLARATION OF STEPHEN N. VAUGHN

I, STEPHEN N. VAUGHN, hereby declare as follows:

1. I reside at 1111 Southern Hills Rd., Kingwood, Texas 77339.
2. I received a B.S. in Nuclear Engineering in 1974 from Kansas State University and a Ph.D. in Engineering in 1980 from Kansas State University.
3. I have worked in the catalysis field since approximately 1980 and in the field of methanol to olefin catalysis since 1993.
4. I am inventor on U.S. Patent No. 6,051,746 ("Sun") entitled, "Oxygenate Conversion Using Modified Small Pore Molecular Sieve Catalyst." I have read and am familiar with the teaching of this patent.

Application No. 09/615,545
Attorney Docket No 2000B009A
Declaration of Stephen N. Vaughn

5. Sun teaches the use of a small pore molecular sieve catalyst that has improved selectivity by adsorbing a modifier onto the catalyst for converting oxygenates to olefins. Sun at col. 2, lines 9-21. The modifier is a polynuclear aromatic heterocyclic compound with at least three interconnecting ring structures. *Id.* Sun also teaches the use of the modified catalyst in an oxygenate-to-olefin reaction. Sun @ col. 4, line 30, to col. 6, line 4. However, Sun does not teach the forming of an integrated hydrocarbon co-catalyst within the porous framework structure of a silicoaluminophosphate molecular sieve. It would be impossible to form the integrated hydrocarbon co-catalyst within the porous structure when the modifier is larger than the pore size.

6. A polynuclear aromatic heterocyclic compound with at least three interconnecting ring structures cannot penetrate the pores of a small pore molecular sieve catalyst which is defined in Sun as a catalyst that has a pore size of less than about 5.0 Angstroms. Sun @ col. 2, line 26-29. Because the heterocyclic compound cannot penetrate into the pores, it cannot form an integrated hydrocarbon co-catalyst within the porous framework structure.

7. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issue thereon.

^{SN}
12 Oct 8, 2003
Date

Stephen N. Vaughn
Stephen N. Vaughn